DARPA-BAA-15-19 MATRIX
Frequently Asked Questions (FAQs)
as of 2/9/15

25Q: For the prototype demo in Phase II, are proposers expected to actually integrate it into an application?

25A: Whether or not a device is integrated into an application, the proposer has to demonstrate breakthrough capability that enables the application.

24Q: Is MATRIX looking for cross-modal transduction across multiple energy domains (electromagnetic, acoustic, mechanical, etc.) or for specific energy domains?

24A: MATRIX is not looking for a single or set of domains or metrics to judge a material's performance. The proposal should describe how a material's performance improves the state of the art for a specific application.

23Q: Is a specific idea for a device based on a transductional material appropriate for the MATRIX program?

23A: The MATRIX program is seeking innovative ideas and novel approaches to achieve revolutionary transductional devices and capabilities using materials with energy conversion capabilities and/or strongly correlated properties. The program has two application-specific technical areas, TA2a focused on thermoelectric materials and devices and TA2b focused on multiferroics, phase change and other transductional materials and devices. A proposer should consider the relevance: for proposals in TA2, the selected device application and challenge problem is expected to have high likelihood of leading to new capabilities of relevance to the U.S. military.

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22Q: According to the BAA, "Per DFARS 204.7304, all procurement contracts, other transactions and other awards, as deemed appropriate, resultant from this solicitation will include the DFARS Export Control clause (252.204-7008)." (BAA, pg. 40). DFARS 252.204-7008 (b) states, "The Contractor shall comply with all applicable laws and regulations regarding export-controlled items, including, but not limited to, the requirement for contractors to register with the Department of State in accordance with the ITAR. The Contractor shall consult with the Department of State regarding any questions relating to compliance with the ITAR and shall consult with the Department of Commerce regarding any questions relating to compliance with the EAR." Since ITAR registration can take up to 60 days for review and acceptance please confirm it is not necessary to be so registered to submit an abstract or proposal. Also, is it permissible to wait and start the ITAR registration process after DARPA has reviewed and provided feedback on a concept paper?

22A: A proposer does not have to register with DDTC/State for export of ITAR items in order to submit an abstract or proposal to DARPA. However, if the proposer's intention is the export of information or items to foreign nationals, non-green card holders, ITAR registration should be added to the timeline.

21Q: For TA2, should the focus of a proposal be on multiple applications or a single application?

21A: The focus of a proposal should be on a single application.

20Q: For TA2b, what is meant as Phase Change materials? Are these materials near a structural transition or something akin to a metal-insulator transition?

20Q: Either kind could be considered a Phase Change material.

19Q: Is the program interested in developing new materials or in applications of transductional materials?

19A: TA1 is focused on modeling new materials and experimental validation of current models. TA2 is focused on materials, devices and applications, with the application guiding the materials and device development.

18Q: If a proposal addresses TA2, which has two sub thrusts (TA2A and TA2B) are you expecting the proposal to pick just one sub thrust (say TA2A) or both?

18A: Proposers to TA2 may address TA2a and/or TA2b. See the BAA, section I.C.1.

17Q: What energy densities are you focusing on?

17A: The energy density depends on the application.

16Q: Can the materials for energy harvesting thermal management and refrigeration be other than thermoelectrics?

16A: Yes.

15Q: In his Proposers' Day presentation (to be posted at http://www.darpa.mil/Opportunities/Solicitations/DSO_Solicitations.aspx), Dr. Gimlett mentioned energy transduction among electric, mechanical, thermal and magnetic. Does nuclear fit into the MATRIX program (e.g., betavoltaic)?

15A: MATRIX is interested in transductional devices and materials. Interest in a specific technology depends on the quality of the proposal and the relevance of the application.

14Q: It is not clear from the Proposers' Day overview presentation of MATRIX how advanced the device is expected to be at the demo stage. It seems like MATRIX starts as a DSO program in years 1-2 then wants to be an MTO program in years 2-3 and maybe a STO program towards year 3. Can you help clarify what the expectation is for the final device demonstration?

14A: Read the BAA, particularly section I.C.1. The program expects to develop devices at a TRL 4 to 5.

13Q: Will hard manufacturing challenges be allowed? At the device level we see the challenge at manufacturing level and would like to solve some of that.

13A: The focus of the program is on the development of transformative devices that currently do not exist. Although manufacturability is an important consideration, If the only challenge for a device is its manufacturability then it is outside the focus of MATRIX.

12Q: Can "significant modeling" be part of TA2? Can modeling be incorporated in TA2?

12A: Yes, see BAA, section I.C.1.

11Q: Can TA1 and TA2 be part of the same proposal? Is it possible to submit a proposal with TA1 and TA2 goals synergistically coupled? What about a proposal having both theoretical (TA1) and experiment (TA2) parts?

11A: No. Proposers interested in both TA1 and TA2 (a and/or b) must submit separate proposals for each proposed Technical Area.

10Q: Will DARPA consider one TA1 proposal that addresses all three material systems?

10A: Yes.

9Q: Will there be/will you consider multiple awards in TA1?

9A: DARPA hopes to fund multiple awards in TA1 but, per section II of the BAA, the number of awards depends on the quality of the proposals received, among other factors.

8Q: Will success and failures of previous DARPA programs be allowed as starting points for device level improvement or will there be a bias toward new concepts? Is DARPA interested in "continuation" of a previous program such as HUMS?

8A: MATRIX is a brand new program unrelated to any previous programs at DARPA. DARPA cares about the proposed outcome, not the starting point.

7Q: The failing of previous transductional devices is largely based on the things that MATRIX seeks to solve. Will model+material+device design where we cross and optimize across technical areas be considered?

7A: Proposals should address a single Technical Area.

6Q: Were there any seedlings funded prior to the program and, if so, what are they?

6A: No.

5Q: Can investigators/organizations be on multiple proposals, i.e., could one be a PI on one proposal and a supporting researcher on another?

5A: Yes. However, should both proposals be selected, the Statements of Work may need to be negotiated to ensure there is no duplication of effort.

4Q: Can there be foreign participation?

4A: Yes, per the BAA, section III.A.2: Non-U.S. organizations and/or individuals may participate to the extent that such participants comply with any necessary nondisclosure agreements, security regulations, export control laws, and other governing statutes applicable under the circumstances.

3Q: Would there be any issues with teaming arrangements?

3A: DARPA is agnostic towards teaming arrangements as long as teams address all aspects called out in the BAA. For teaming with government entities see the MATRIX BAA, section III.A.1.

2Q: Do you anticipate awarding the contract in phases?

2A: Yes, and Phase II awards would be contingent on Phase I performance.

1Q: What is the total dollar amount for all the awards? What is the number of expected awards?

1A: MATRIX falls in the range of typical DSO programs which have funding of approximately $10M a year. Per section II of the BAA, the number of awards will depend on the quality of the proposals, among other factors.